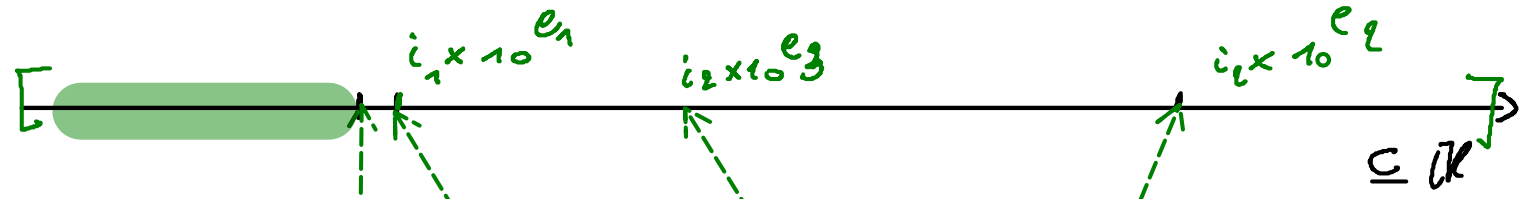


b BASIS
 D DIGITS
 F DIGITS

e.g., -100 ... +100

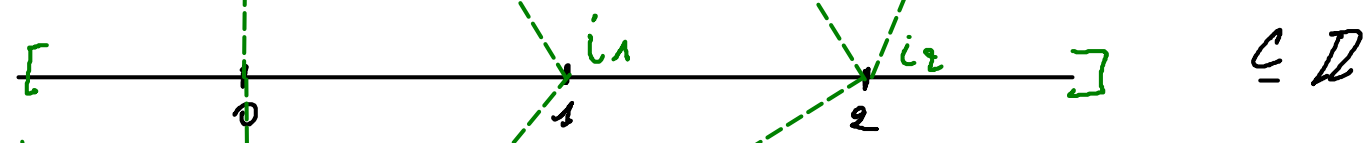
FLOATING POINT



SIGN BIT

$$\frac{1}{e^f} = e^{-f}$$

SIGNED INTEGER



$\times 1/5$

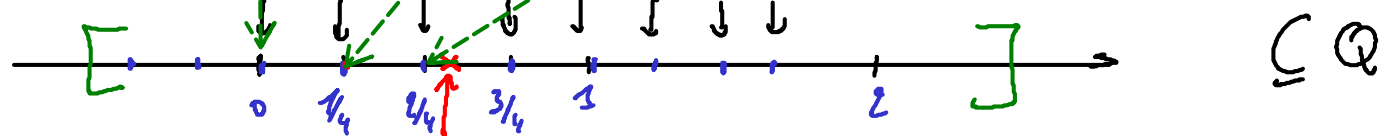
$1/5$

$1/5$

$1/5$

$\times 1/5$

Fixed-Point



$1/5$

$1/4$

$$\frac{(1/4)}{2} = 1/8$$

$$i_1 < i_2$$

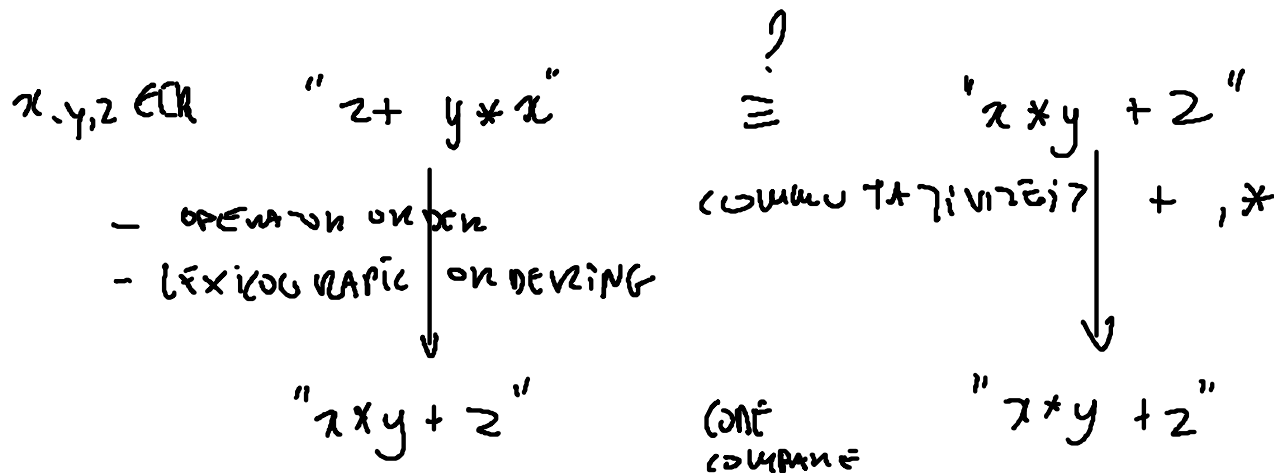
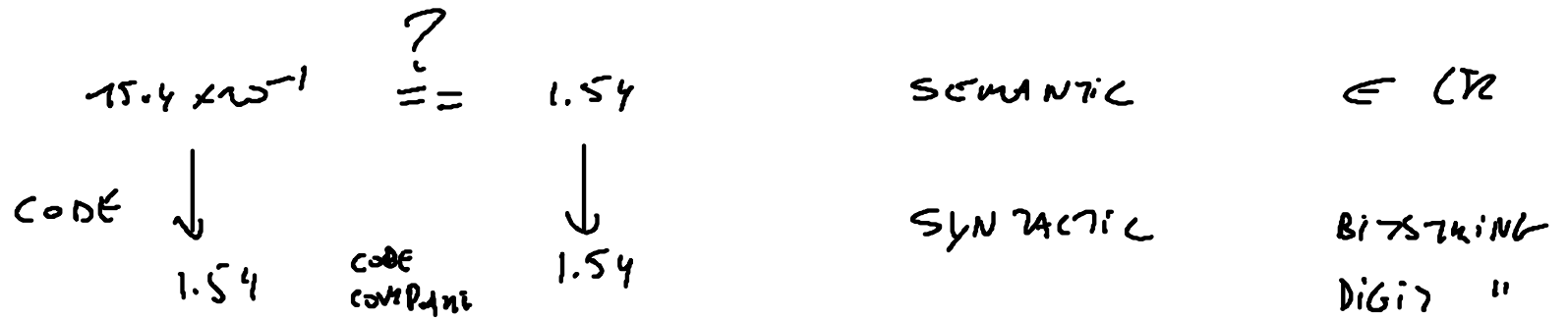
$$i_1 \times 10^{e_1} < i_2 \times 10^{e_2}$$

$$\frac{100 \times 10^{\phi}}{100} > \frac{1000 \times 10^{-2}}{10}$$

CAVEAT : CANONICAL

EQV.

1.54 ∈ { 1.54 × 10⁰, 15.4 × 10⁻¹, 154 × 10⁻², 1540 × 10⁻³, 1.54, ... }

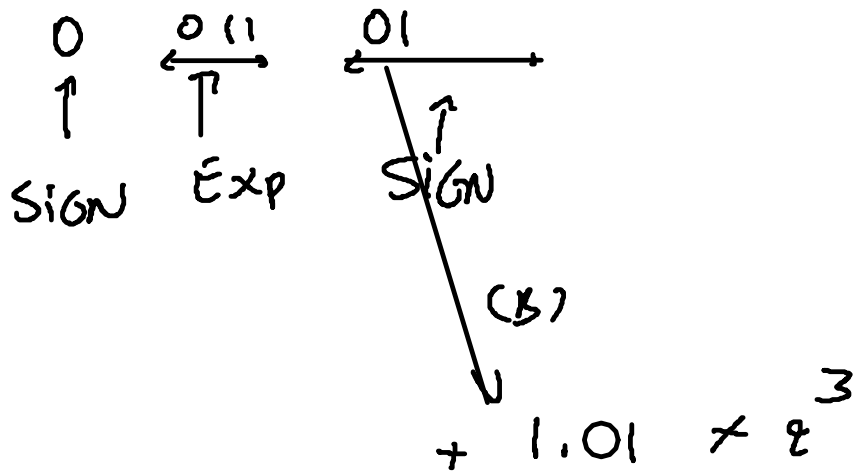


(A) $0.01_2 \times 2^4$

(B) $1.01_2 \times 2^3$

$>$

1010_2



(A)

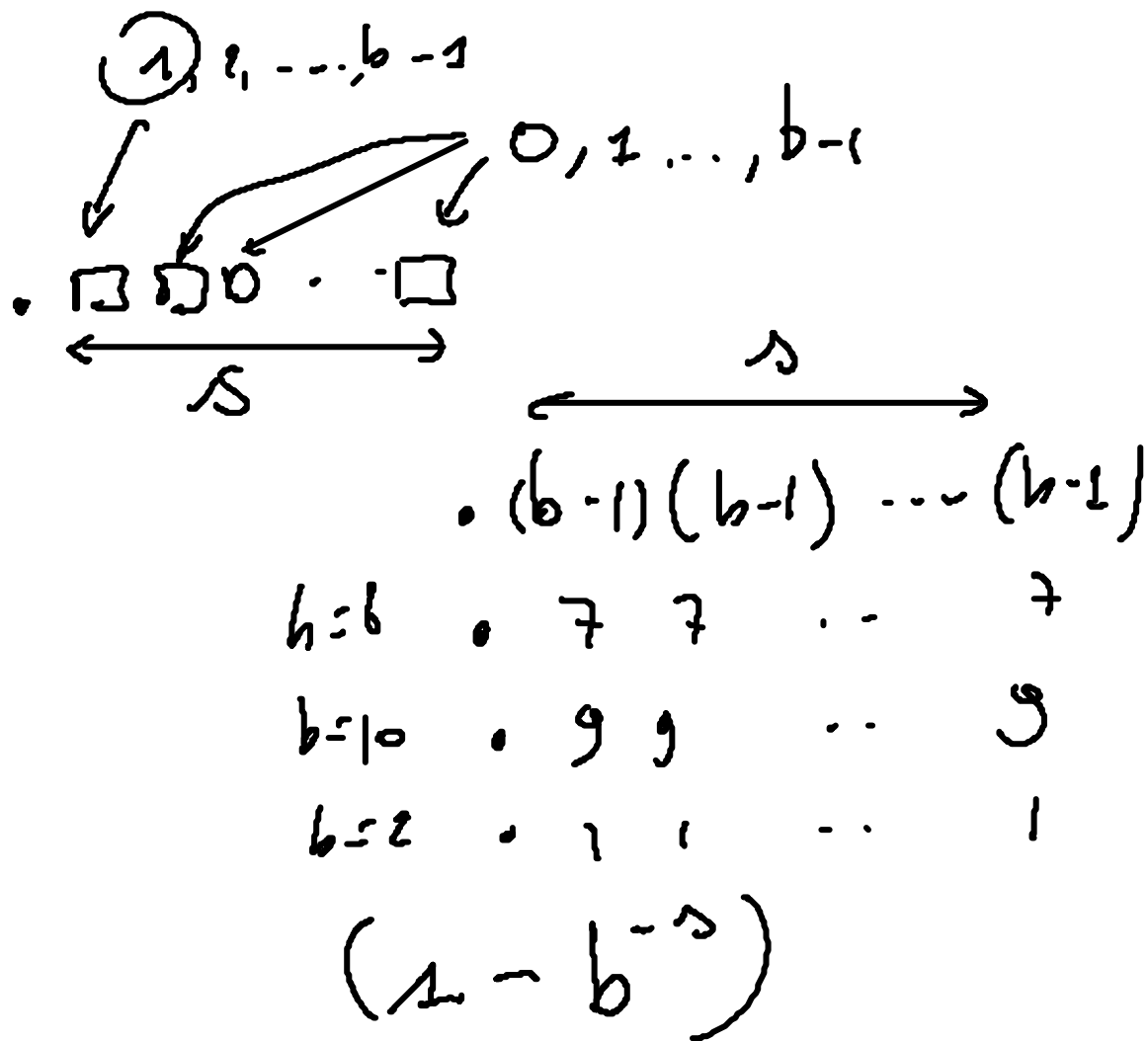
+

$$b^M \cdot (1 - b^{-s})$$

$$b^e$$

$$[M, M]$$

$$- b^M \cdot (1 - b^{-s})$$



$$0.\overline{999} = 1 - 0.001$$

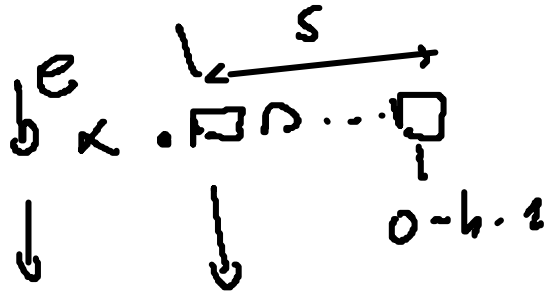
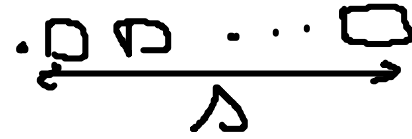
$\xleftrightarrow{3}$

\uparrow
 10^{-3}

(A)

$$+ b^m \cdot (1x)b^{-1}$$

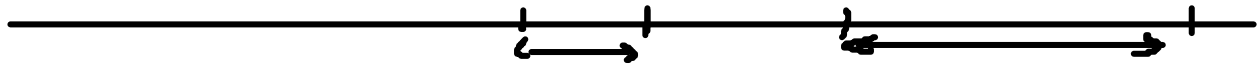
$1-b^{-2}$



$b = 10$

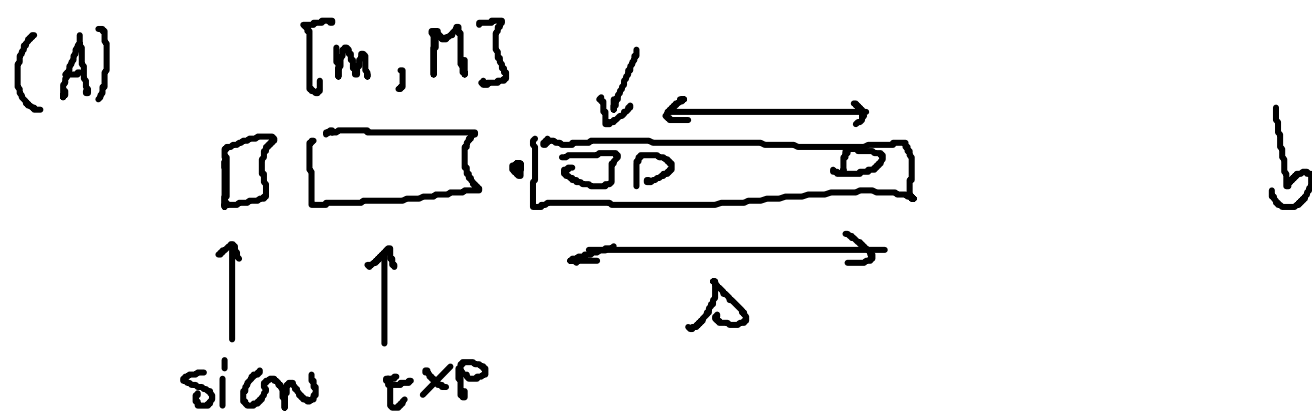
$0.00\dots 1$
↔
 Δ

0.1
↑



kl Δ $b^m \times (1x)b^{-s}$

gr Δ $b^m \times (1x)b^{-s}$



bit COMBINATIONS

$$2 \times (M - (m-1)) \times (b-1) \times b^{s-1} + 1$$

$$[2, 4] \subseteq \mathbb{N}$$

$$\# [2, 4] = 4 - (2-1)$$

$$= 3$$

$$N \quad \left[-2^{N-1}, 2^{N-1} \right]$$

$$N=2 \quad \left[-2, 2 \right]$$

m M